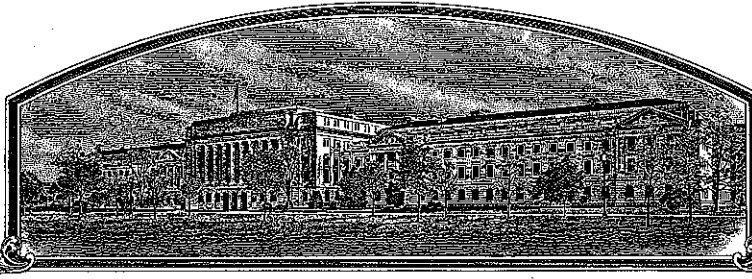


No.

200500240



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Department of Agriculture, Thailand

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

RICE

'Prachinburi 2'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this eleventh day of December, in the year two thousand and six.

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER Department of Agriculture, Thailand		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME HTAFR81042-4B-7-1	3. VARIETY NAME Prachinburi 2
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 50 Phaholyotin Rd., Chatuchak, Bangkok 10900, Thailand		5. TELEPHONE (include area code) (662) 579-4127	FOR OFFICIAL USE ONLY PVPO NUMBER 200500240 FILING DATE May 2, 2005
		6. FAX (include area code) (662) 579-0548	
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Governmental Body	8. IF INCORPORATED, GIVE STATE OF INCORPORATION	9. DATE OF INCORPORATION	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Mr. Rapihat Chandarasrivongs Mr. Prakan Virakul, Minister Counsellor (Agriculture) Office of Agriculture Affairs Washington D.C. U.S.A. 1024 Wisconsin Ave, N Washington D.C. 20007 U.S.A.			F E E S R E C E I V E D FILING AND EXAMINATION FEES: \$ 3,652 - DATE 11/21/2005 CERTIFICATION FEE: \$ 768.00 DATE 10/4/2006
11. TELEPHONE (include area code) (202) 236-6682	12. FAX (include area code) (202) 338-1549	13. E-MAIL moacdc@erols.com RAD 2/18/05	
14. CROP KIND (Common Name) Rice	15. FAMILY NAME (Botanical)	16. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.	
17. GENUS AND SPECIES NAME OF CROP Oryza sativa	18. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input type="checkbox"/> NO	19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)	
20. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input checked="" type="checkbox"/> NO (If "no", go to item 23) 22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED 23. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)	
24. THE owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.		25. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)	
SIGNATURE OF OWNER Chakarn Saengruksawong		SIGNATURE OF OWNER Chakarn Saengruksawong	
NAME (Please print or type) Chakarn Saengruksawong		NAME (Please print or type) Chakarn Saengruksawong	
CAPACITY OR TITLE Director General, DOA Thailand	DATE 18 January 2005	CAPACITY OR TITLE Director General, DOA	DATE 18 January 2005

(See reverse for instructions and information collection burden statement)

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvpindex.htm>

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 <http://www.ams.usda.gov/lsg/seed.htm>.

ITEM

- 19a. Give:
- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
 - (2) the details of subsequent stages of selection and multiplication;
 - (3) evidence of uniformity and stability; and
 - (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See *Regulations and Rules of Practice*, Section 97.103).
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

23. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

24. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Exhibit A. Origin and Breeding History of the Variety

Prachinburi2 is a new plant type deepwater rice variety developed by Thailand Department of Agriculture. It was selected from the progenies of the cross BKNFR80086/HTAFR80038 (cross code no. HTAFR81042). BKNFR80086, a female parent, is the cross of BKN76035-97-2/RD19//BKNFR76045-10-2-4 and HTAFR80038, a male parent, is the cross of HTAFR79164/HTAFR76159. The cross BKNFR80086/HTAFR80038 was made at Huntra Rice Experiment Station, Pranakorn Sri Ayuthaya Province, Thailand in 1981 wet season. *The details of it's pedigree is shown in Figure 1. Almost all of backup parentage were groups of common knowledge varieties and donor lines except varieties Nam Sa-Gui 19 and RD 19 were publicly known in 1968 and 1979, respectively.*

Pedigree and bulk selection methods were adopted in the breeding program. The F_1 seeds of HTAFR81042 were spaced planted in screening house at Huntra Rice Experiment Station in 1982 wet season. F_2 - F_4 seeds were grown in bulk method under natural deepwater rice field conditions at Huntra Rice Experiment Station 1983-1985 wet season. F_5 - F_6 seeds were grown in pedigree method under deepwater rice field conditions at Huntra Rice Experiment Station in 1986-1987 wet season. After harvesting, the seeds of each F_6 breeding lines were evaluated for their physical and chemical grain characteristics. HTAFR81042-4B-7-1 was one among the promising lines and it was found to be uniform and stable in F_6 generation.

In 1986 and 1987 wet season, HTAFR81042-4B-7-1 was grown in modified bulk method at Huntra Rice Experiment Station and farmer's deepwater rice field in the province of Pranakorn Sri Ayuthaya. At the same time, it was screening for stem elongation ability, submergence tolerance ability, and drought tolerance ability.

A preliminary evaluation for desirable characteristics of HTAFR81042-4B-7-1 was taken in 4-rows observation plot, using RD19, HTA60 and LPT123 as standard check variety, at Huntra Rice Experiment Station in 1990-1992 wet season.

In 1993 wet season, a preliminary yield trial or Intra- Station Yield Trial of HTAFR81042-4B-7-1 was conducted at Huntra Rice Experiment Station in Pranakorn Sri Ayuthaya Province, Phitsanulok Rice research Center in Phitsanulok Province, and Prachinburi Rice Research Center in Prachinburi Province. At the same time, grain yield

potential in shallow water (25 cm) and deep water (100 cm) conditions, grain quality and reactions to important diseases and insects pests of HTAFR81042-4B-7-1 were conducted.

In 1997-2000 wet season, yield trial in farmers' field and demonstration plots of HTAFR81042-4B-7-1 were conducted at 21 locations in the provinces of Pranakorn Sri Ayuthaya, Ang-Tong, Lop Buri, Suphan Buri, Nakorn Nayok, and Prachinburi. Fertilizer response trial was also conducted and anticipated breeder seed was produced at Huntra Rice Experiment Station and Prachinburi Rice Research Center.

It can be concluded that Prachinburi 2 has been observed for 19_^ generations of reproduction and during the seed increase period and is stable and uniform. No variants were observed.

RAP
8/16/06
(F₆)
^

HTAFR81042-4B-7-1, a new plant type deepwater rice promising line, is photoperiod sensitive. It has short stature, stiff straw, lodging resistance, high yield potential, good stem elongation ability, intermediate submergence tolerance, moderately tolerance to acid sulfate soil, resistance to blast, and moderately resistance to bacterial leaf blight. It has high amylose content (30.25%), high gel consistency (58 mm), intermediate gelatinization temperature (73 C), elongation ratio 1.6 and spreading value 4.

HTAFR81042-4B-7-1 was nominated to be new deepwater rice variety and was officially released under the name "Prachinburi2" by Thai Department of Agriculture, Ministry of Agriculture and Cooperatives, Thailand on January 7, 2002. Breeder seed and foundation seed of Prachinburi2 have been produced and maintained by The Department of Agriculture of Thailand.

Remarks : Additional statement are in bold and italic typed.

Figure 1 Flow chart of Prachinburi 2 Pedigree

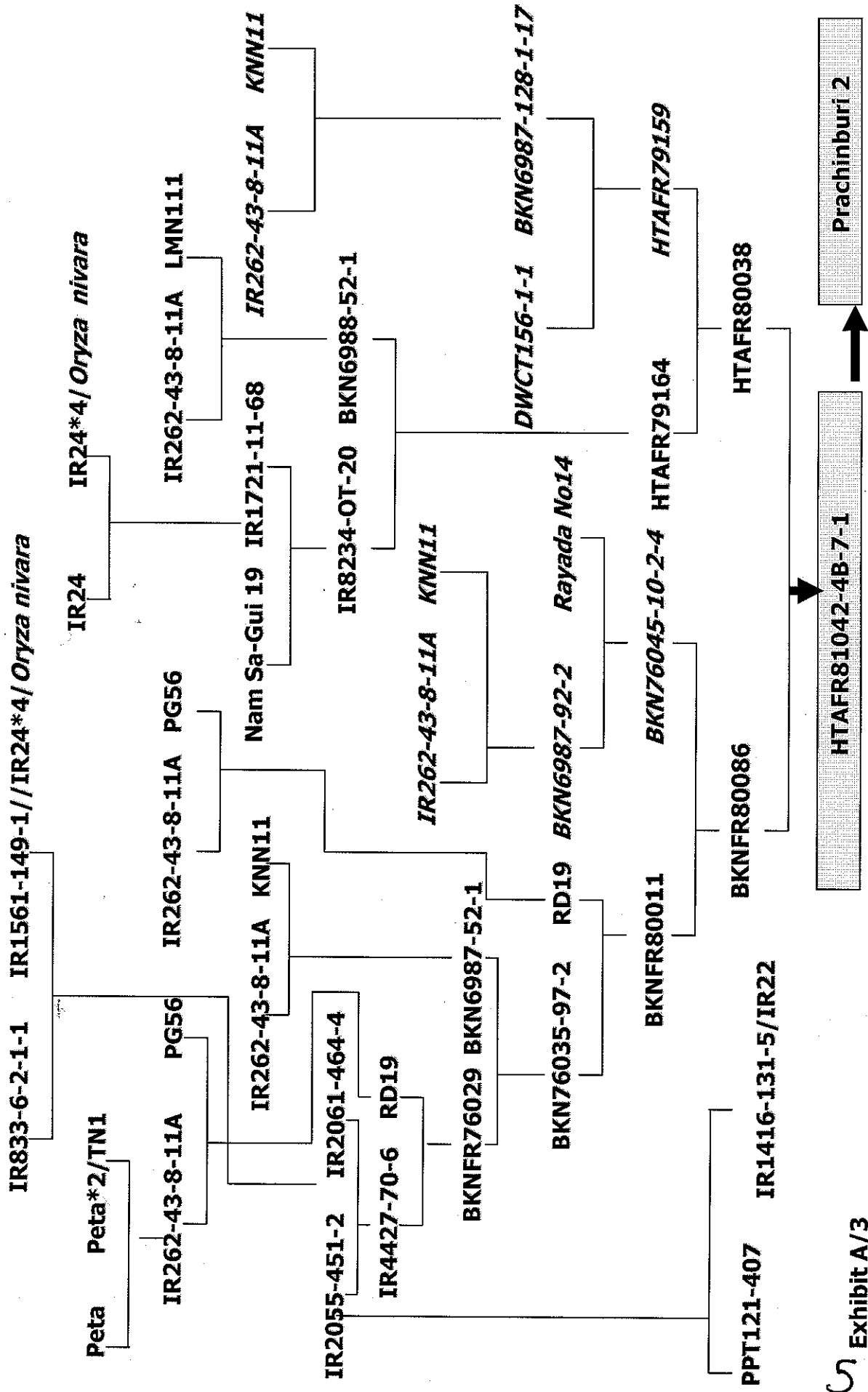


Table 1. Development of Prachinburi 2

Year/season	Program Stage
1981 wet season	Crossing of HTAFR81042 (BKNFR80086/HTAFR80038) at Huntra Rice Experiment Station (HTA), Pranakorn Sri Ayuthaya, Thailand.
1982 wet season	F ₁ seeds were planted in screening house at HTA.
1983-1985 wet season	F ₂ -F ₄ seeds were planted in bulk method under natural deepwater field conditions at HTA.
1986-1987 wet season	F ₅ -F ₆ seeds were planted in pedigree method under natural deepwater field conditions at HTA. HTAFR81042-4B-7-1 was an outstanding line, uniform and stable
1988-1989 wet season	HTAFR81042-4B-7-1 were planted in modified bulk method under natural deepwater field conditions at HTA and farmers' field in Pranakorn Sri Ayuthaya Province, and screened for stem elongation ability, submergence tolerance ability, and drought tolerance ability.
1990-1992 wet season	HTAFR81042-4B-7-1 was planted in 4-rows observation plot for preliminary evaluation of desirable characteristics at HTA.
1993 wet season	HTAFR81042-4B-7-1 was evaluated in preliminary yield trial of Intra Station yield Trial at HTA, physical and chemical grain characteristics were also evaluated
1994-1996 wet season	Evaluation of yielding ability in Inter Station yield Trial, physical and chemical grain characteristics, grain yield potential in shallow (25 cm) and deepwater (100 cm), reactions to diseases and insects pests; and testing for stem elongation, submergence tolerance, drought tolerance and tolerance to acid sulfate soil.
1997-2000 wet season	Evaluation of yield performance under farmers' conditions in farmers' field yield trial and demonstration plots, fertilizer response trials and reactions to diseases and insects pests.
2001	Anticipated breeder seed was produced.
2002	HTAFR81042-4B-7-1 was nominated for a process of new variety release and named "Prachinburi2" by Thai Department of Agriculture on January 7, 2002.

Exhibit B. Statement of Distinctness

Prachinburi 2 is the first new plant type deepwater rice variety commercially grown in Thailand. *It can be grown under rainfed condition of prolonged* flooding 3-4 months with the range of water depth from 50-100 cm. where water recession commences in early December.

RAO
8/16/06
MOST
^

The maturity of Prachinburi 2 is on 18 December, similar to that of RD 19 but 5 days earlier than that of Huntra 60, all are photoperiod sensitive. The hull color of Prachinburi 2 is rather brown in contrast to the straw color of Huntra 60's hull. Prachinburi 2's grain length and shape are most similar to RD 19. The appearance of paddy of Prachinburi 2 looks different from the cleanliness of that of Huntra 60. Both Prachinburi 2 and RD 19 have high amylose content in grain while Huntra 60 has the intermediate one.

Prachinburi 2's plant type is similar to that of RD 19. The leaf blade color of Prachinburi 2 is pale green while it is green in RD 19. Under the same condition. The similar shape and size of ligule of Prachinburi 2 and Huntra 60 is the most distinguishable character to the smaller and shorter one of RD 19.

The endosperm chalkiness of grain of Prachinburi 2 is in between of that of Huntra 60 and RD 19, which RD 19 has largest area of chalkiness in grain.

The comparison of their seed dormancy periods, Prachinburi 2's dormancy period is just 4 weeks, but seeds of RD 19 and Huntra 60 have dormancy period of 6 weeks.

The significant difference between Prachinburi 2 and the other two varieties is the reaction to blast disease (*Pyricularia oryzae*) at the seedling stage. Prachinburi 2 is highly resistant while RD 19 and Huntra 60 are moderately resistant from 5 years observation in the same field test. The subject variety may have a specific gene whereas the most similar varieties may not. In addition this is the first time for PVP abroad so that the conflict of the proposed variety name may not occur. For the next application to other countries the name of Prachinburi 2 will be also proposed.

1. MATURITY - Days to Heading (Seedling to 50% Heading):

A. Thailand: (Location: 13° 55' N and 101° 15' E at 37.5 kg/ha (Nitrogen Rate)

120-150 Number of Days

5 Days Earlier Than Check Variety: Huntra 60

120-150 Days Same As Check Variety: RD 19

10 Days Later Than Check Variety: Ayuthaya 1 (new variety just release in 2004)

4 Maturity Class (50% Heading) - South: 1 = Very Early (85 Days or Less) 2 = Early (86 - 100)
3 = Intermediate (101 - 115) 4 = Late (More Than 115)**Since the subject variety is photoperiod sensitive, maturity is depending on date of flowering mostly on 18 November. The above information based on May to July grown.*

B. California: (Location: _____) at _____ kg/ha (Nitrogen Rate)

____ Number of Days

____ Days Earlier Than Check Variety: _____

____ Days Same As Check Variety: _____

____ Days Later Than Check Variety: _____

____ Maturity Class (50% Heading) - California: 1 = Very Early (90 Days or Less) 2 = Early (91 - 97)
3 = Intermediate (98 - 104) 4 = Late (More Than 104)

2. CULM:

1 Angle (Degrees from Perpendicular after Flowering):

(1) = Erect (Less than 30°) 3 = Intermediate (About 45°) 5 = Open (About 60°)
7 = Spreading (More than 60° but the culms do not rest on the ground)
9 = Procumbent (The culm of its lower part rests on the ground surface)

2. CULM: (continued)

LENGTH

133 • cm (Soil level to top of extended panicle on main stem)

23 • cm Shorter Than Check Variety: Huntra 60 (under shallow water depth of 30 cm)

Length Same as Check Variety: _____

06 • cm Longer Than Check Variety: RD 19

2 Height Class: 1 = Semi dwarf (2) = Short 3 = Medium 4 = Tall

1 Internode Color (After Flowering): (1) = Green 2 = Light Gold 3 = Purple Lines 4 = Purple

1 Strength (Lodging Resistance): (1) = Strong (no Lodging) 3 = Moderately Strong (Most Plants Leaning)
5 = Intermediate (Most Plants Lodged) 7 = Weak (Most Plants Flat)
9 = Very Weak (All Plants Flat)

3. FLAG LEAF (After Heading):

36 • cm Length

13 • mm Width

2 Pubescence: 1 = Glabrous (2) = Intermediate 3 = Pubescent

3 Leaf Angle (After Heading): 1 = Erect (3) = Intermediate 5 = Horizontal 7 = Descending

2 Blade Color: 1 = Pale Green (2) = Green 3 = Dark Green 4 = Purple Tips
5 = Purple Margins 6 = Purple Blotch 7 = Purple

1 Basal Leaf Sheath Color: (1) = Green 2 = Purple Lines 3 = Light Purple 4 = Purple

4. LIGULE:

- 28 • mm Length (From base of collar to the tip, at late vegetative stage)
- 1 Color (Late Vegetative Stage): (1) = White 2 = Purple Lines 3 = Purple
- 2 Shape: 1 = Acute to Acuminate (2) = 2-Cleft 3 = Truncate
- 1 Collar Color (Late Vegetative Stage): (1) = Pale Green 2 = Green 3 = Purple
- 1 Auricle Color (Late Vegetative Stage): (1) = Pale Green 2 = Purple

5. PANICLE:

- 29 • cm Length
- 5 Type: 1 = Compact (5) = Intermediate 9 = Open
- 2 Secondary Branching: 1 = Absent 2 = Light 3 = Heavy 4 = Clustering
- 3 Exsertion (Near Maturity): 1 = Less than 90% 2 = 90 - 99% 3 = 100% Exserted
- 2 Axis: (1) = Straight (2) = Droopy
- 3 Shattering: 1 = Very Low (Less Than 1%) (3) = Low (1 - 5%) 5 = Moderate (6 - 25%)
7 = Moderately High (26 - 50%) 9 = High (More than 50%)
- 2 Threshability: 1 = Difficult (2) = Intermediate 3 = Easy

6. GRAIN (Spikelet):

- 0 Awns (After Full Heading): (0) = Absent 1 = Short and Partly Awned 5 = Short and Fully Awned
7 = Long and Partly Awned 9 = Long and Fully Awned
- 2 Apiculus Color (At Maturity): 1 = White (2) = Straw 3 = Brown (Tawny) 4 = Red
5 = Red Apes 6 = Purple 7 = Purple Apex
- 1 Stigma Color: (1) = White 2 = Light Green 3 = Yellow 4 = Light Purple 5 = Purple

6. GRAIN (Spikelet):

- 0 Lemma and Palea Color (At Maturity):
(0) = Straw 1 = Gold and/or Gold Furrow on Straw Backgrounds 2 = Brown Spots on Straw (Piebald)
3 = Brown Furrows on Straw 4 = Brown (Tawny) 5 = Reddish to Light Purple
6 = Purple Spots on Straw 7 = Purple Furrows on Straw 8 = Purple
9 = Black 10 = White
- 4 Lemma and Palea Pubescence: 1 = Glabrous 2 = Hairs on Lemma Keel 3 = Hairs on Upper Portion
(4) = Short Hairs 5 = Long Hairs (Velvety)
- 3 Spikelet Sterility (At Maturity): 1 = Highly Fertile (>90%) (3) = Fertile (75 - 90%) 5 = Partly Sterile (50 - 74%)
7 = Highly Sterile (<50% to Trace) 9 = Completely Sterile (0%)

7. GRAIN (Seed):

- 2 Seed Coat (Bran) Color:: 1 = White (2) = Light Brown 3 = Speckled Brown 4 = Brown
 5 = Red 6 = Variable Purple 7 Purple
- 1 Endosperm Type: (1) = Nonglutinous (Nonwaxy) 2 = Glutinous (Waxy) 3 = Indeterminate
- 5 Endosperm Translucency: 1 = Clear (5) = Intermediate 9 = Opaque
- 5 Endosperm Chalkiness: 0 = None 1 = Small (Less than 10% of Sample)
 (5) = Medium (10 - 20% of Sample) 9 = Large (More than 20% of Sample)
- 0 Scent (Aroma): (0) = Nonscented 1 = Lightly Scented 2 = Scented

Shape Class (Length/Width Ratio):

- 3 Paddy 1 = Short (2.2:1 and Less) 2 = Medium (2.3:1 to 3.3:1) 3 = Long (3.4:1 and More)
- 3 Brown 1 = Short (2.0:1 and Less) 2 = Medium (2.1:1 to 3.0:1) 3 = Long (3.1:1 and More)
- 3 Milled 1 = Short (1.9:1 and Less) 2 = Medium (2.0:1 to 2.9:1) 3 = Long (3.0:1 and More)

Measurements:

Grain Form	Length	Width	Thickness	LW	100 Grains
	(mm)	(mm)	(mm)	Ratio	(grains)
Paddy	10.28	2.65	2.05	3.88	2.78 (gm) at 14% MC
Brown	7.29	2.34	1.86	3.11	2.61
Milled	6.79	2.22	1.73	3.05	2.20

22.25 Milling Quality (% Hulls)

48.47 Milling Yield (% White Kernel (head) Rice to Rough Rice)

____ % Protein (not available)

30.25 % Amylose

Alkali Spreading Value: ____ 4 ____ 1.5% KOH Solution (Intermediate type)

- 5 Gelatination Temperature Type: 1 = High (5) = Intermediate 7 = Low

Amylographic Paste Viscosity (Brabender Units)

Peak Hot Past Cooled Paste Breakdown 'Setback'

8. RESISTANCE TO LOW TEMPERATURE:

- ____ Germination and Seedling Vigor: 1 = Low 2 = Medium 3 = High
- ____ Flowering (Spikelet Fertility): 1 = Low 2 = Medium 3 = High (not available since it is not necessary.)

9. SEEDLING VIGOR NOT RELATED TO LOW TEMPERATURE:

- ____ Vigor: 1 = Low 2 = Medium 3 = High (not available since it is not necessary.)

10. BLAST RESISTANCE: (*Pyricularia oryzae*). (International races found under References)

0 = Immune (1) = Resistant 3 = Moderately Resistant 5 = Intermediate 7 = Moderately Susceptible 9 = Susceptible

Groups	IB				IC		ID	IE	IG	IH
Number	1	5	45	49	54	1	17	1	13	1
Resistance	____	____	____	____	____	____	____	____	____	____

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE**EXHIBIT E**
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) Department of Agriculture, Thailand	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER HTAFR81042-4B-7-1	3. VARIETY NAME Prachinburi 2
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 50 Phaholyotin Rd., Chatuchak, Bangkok 10900, Thailand	5. TELEPHONE (include area code) (662) 579-4127	6. FAX (include area code) (662) 579-0548
7. PVPO NUMBER 200500240		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. ☒ YES ☐ NO9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. ☐ YES ☒ NO
Thailand10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country
Thailand

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country
Thailand

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

The breeders are the government officials of the Department of Agriculture, Thailand. Therefore, any plant varieties or inventions done by them belong to the Department of Agriculture, Thailand.

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.